

that proportion is greatly counterbalanced by the discoveries which are continually going on of new fossil species.

The eleven species of *Cycadites* approach most in their stiff and uninnervous leaves to the recent species of *Cycas*, the number of which is nearly equal to that of the fossil species; a part of the genus *Zamites*, and especially the species (nearly to the number of fifteen) the pinnules of which present a certain contraction at their base, correspond to the genus *Encephalartos*, whilst the species (to the number of eight) the pinnules of which are articulated at their base, and are fixed to the frond in an oblique manner, might offer a pendant to the *Macrozamia*. Lastly, the genera *Zamiostrobus*, *Nilsonia* and *Pterophyllum*, composed of thirty-eight species, must be considered as extinct genera, and do not admit of any parallel with the *Zamia*, L., the pinnules of which are distinctly articulated, whilst those of the genera in question do not at all present that peculiarity.

The author concludes his important work with a comparative table of the geographical and geological distribution of the living and fossil *Cycadeæ*. We submit it to our readers, not only because it is of great interest, but also because it serves to render the extent of the laborious investigations of the celebrated savant of Breslau appreciated.

Present Flora.

Cycas, L., composed of 10 species; tropical and subtropical Asia, New Holland.

Macrozamia, Miq., 3 species; New Holland and the Cape.

Encephalartos, Lehm., 15 species; the Cape, not far from the tropics.

Zamia, 10 species; tropical and subtropical America.

Genus partly extinct.

Genus wholly extinct.

Genus wholly extinct.

Genus wholly extinct.

Fossil Flora.

Cycadites, composed of 11 species; Sweden, Isle of Portland, France, Bohemia, Saxe-Coburg and Hanover.

Zamites, Brong. (incomplete analogy); France, England, Baireuth, Bamberg (Bavaria).

Reappears 15° further north, that is to say, Isle of Portland, England, Bamberg.

Wholly wanting.

Zamites, Gœpp.; Isle of Portland, England, France, Bamberg, Baireuth, East Indies.

Zamiostrobus, England.

Pterophyllum, Brong., 23 species; Switzerland, Wurtemberg, Austria, Bohemia, Bamberg, Baireuth, Saxony, Schaoumberg, Silesia.

Nilsonia, Brong., 12 species; Sweden, England, Saxe-Coburg, Quedlinbourg, Bamberg, Baireuth.

Extract of a Note from J. E. GRAY, Esq., relative to his paper on the Animal of Spirula, p. 257.

To Richard Taylor, Esq.

MY DEAR SIR,—While in Holland, my friend M. Milne Edwards has sent me M. Laurent's 'Annales d'Anatomie et Physiologie,' containing a paper by M. de Blainville describing the body of *Spirula*,

in which he shows that the animal is provided with a rudimentary fin on each side of the terminal gland, which had been rubbed off or otherwise destroyed, so that their base appears to form part of the gland itself in Mr. Cuming's specimen.

The paper above referred to, being published in a work chiefly devoted to anatomy and medicine, had escaped my knowledge.

I will shortly send you a copy of the figures, with some other particulars, for the purpose of completing the history of this interesting genus.

Believe me, my dear Sir, yours very truly,

15th May, 1845.

J. E. GRAY.

[The observations of M. de Blainville were noticed by Mr. Owen in one of his Hunterian Lectures, published in 1843, of which the following is an extract:—

“The genus in which the shell most nearly resembles that of the tetrabranchiate Cephalopods, belongs to the *Spirula*. A few mutilated specimens which had reached this country during this present century had demonstrated it to be an internal shell, and the more perfect specimen dissected by M. de Blainville in 1839, proved it to have the characteristic organization of the Dibranchiate order, and to possess, as Péron had indicated, the eight short arms and the two long tentacula of the Decapodous tribe.”—ED.]

ON THE DEVELOPMENT OF DORIS. BY C. W. PEACH*.

[With a Plate.]

Goran Haven, Cornwall, April 1845. 7

HAVING in the early part of 1844 noticed white-spotted jelly-like films suspended from the rocks in the cove near my residence, my curiosity was excited to know what they were. On the 18th of January of that year, I observed that they were more plentiful than I ever before saw them, and on rocks *considerably nearer high water mark*. I also found a great number of a small kind of *Doris* on the same rock; not having seen them there before, I began to suspect that in all probability they had something to do with the above-mentioned films. I took several of them and placed them in a vessel containing sea-water; the next morning I found that a pair of them had fixed their ova to the side of the dish, *in every respect agreeing with those found on the rock*, thus confirming my suspicions. They shed their ova in pairs. I took also with the animal several pieces of their ova from the rock and kept them in a glass of sea-water, and on the 5th of February found that the young had come forth in thousands. I just mention, that no mistake might be made, that I always filtered the water I supplied the ova with through three or four folds of linen; and moreover, I saw the young moving about in the ova long before they came out, and also observed others there some time after their elder brethren had left. These young are contained in a Nautilus-like shell so small (indeed a mere speck), as not to be made out as such by the unassisted eye. The animal is furnished with two arms of a

* Read at the last Annual Meeting of the Royal Institution of Cornwall.